

Baruch College
Department of Mathematics

MATH 3007 SYLLABUS

Textbook or ebook: Calculus – 11th Edition by Larson and Edwards, Cengage Learning Publisher. The Webassign homework correlates with the section number and topic in the textbook.

LESSON #	TOPICS	READING	HOMEWORK PROBLEMS
1	Sequences	9.1	p. 596: #5, 6, 7, 11, 13, 17, 20, 25, 26, 31, 32, 33, 35, 37, 45, 47, 48, 51, 52, 53, 56, 57, 59, 60, 61
2	Series and Convergence	9.2	p. 605: #7, 10, 11, 13, 15, 17, 19, 21, 23, 28, 30, 31, 32, 34, 35, 37, 43, 47, 48, 49, 53, 54, 55, 68
3	The Integral Test and p-Series	9.3	p. 613: #3, 8, 9, 13, 23, 29, 33, 35, 45, 69 – 80 (all)
4	Comparisons of Series	9.4	p. 620 #5, 6, 8, 9, 10, 11, 13, 15, 17, 19, 21, 23, 26, 27 – 34 (all)
5	Alternating Series	9.5	p. 629: # 9, 11, 17, 18, 21, 29, 33, 34, 37, 39, 40, 42, 44, 45, 49, 50, 51, 53, 71-80 (all)
6	The Ratio and The Root Tests	9.6	p. 637: #19, 20, 23, 27-37 (odd), 39, 43, 45, 53-70 (all)
7	Taylor Polynomials	9.7	p. 648: #5, 7, 17, 19, 23, 27, 31, 33, 39, 43, 45, 48, 57, 61
8	Power Series	9.8	p. 658: #9 – 27 (odd), 30, 33, 41, 49, 51
9	Representation of Functions by Power Series	9.9	p. 666: # 5, 7, 11, 13, 17, 23, 26
10	Taylor and Maclaurin Series	9.10	p. 677: #5, 7, 11, 13, 18, 22, 23, 27, 43, 45, 53, 57, 59, 65

LEARNING GOALS OF COURSE: Upon completion of this course, students will be able to:

- Determine the convergence or divergence of a sequence of real numbers, and find the limit of a convergent sequence.
- Apply appropriate tests to determine the convergence or divergence of an infinite series; find the interval and radius of convergence for a power series; determine power series representations (e.g. Taylor or Maclaurin series) for infinitely differentiable functions; find Taylor polynomials, and use Taylor's Remainder Theorem to determine the accuracy of a polynomial approximation.